



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,133	11/17/2003	Kaushik Saha	64476-00003USPX	1894
32914	7590	11/09/2007		
GARDERE WYNNE SEWELL LLP			EXAMINER	
INTELLECTUAL PROPERTY SECTION			MAI, TAN V	
3000 THANKSGIVING TOWER				
1601 ELM ST			ART UNIT	PAPER NUMBER
DALLAS, TX 75201-4761			2193	
			MAIL DATE	DELIVERY MODE
			11/09/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

mm

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/715,133	SAHA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tan V. Mai	2193	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/20 & 7/26/07.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/15/04, 10/9/07</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

1. The drawings are objected to because the label "No reusability" block [of Fig. 3] should in col. "x(i)h(3)", i.e., see page 7, lines 5-7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per independent claim 1, the term "Multipliers" (line 4) should be --Multiplier--. The phrase "each available processing unit" is indefinite. It is unclear whether or not the

Art Unit: 2193

"processing unit" refers to the ALU (line 3). The phrase "on the specified output sample values" (last two lines) is NOT understood. Similarly noted claims 3 and 7.

As per independent claim 4, the preamble recites "2 parallel-processor architecture"; however, the body seems to be recite "pipelined" fashion, i.e., processor # 1 first, then processor # 2 second and repeat the loop. Clarification is requested.

As per independent claim 5, it is unclear whether or not the method needs the "incrementing the loop index by number of processor". Does the method use more than a processor? Are the processors operating in parallel fashion? Similarly noted claim 6.

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite a method / apparatus for performing a mathematical function. It is noted that apparatus claims 1 and 7 recite multiprocessors. It is clearly the apparatus is implemented by either software or general hardware (e.g., computer).

"[t]o satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

- . The claimed invention "transforms" an article or physical object to a different state or thing.
- . The claimed invention otherwise produces a useful, concrete and tangible result,..."

See "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" OG Date: 22 November 2005.

In order for claims to be statutory, claims must include a practical application with a concrete, useful, and tangible result. However, claims 1-9 merely disclose elements /

steps of performing mathematical function without disclosing a practical application with a concrete, useful, and tangible result, as they are pre-emptive in any application.

Therefore, claims 1-9 are directed to non-statutory subject matter.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giacalone et al.

Giacalone et al disclose, e.g., see Figs. 21 and 24-27, the invention substantially as claimed, including: a plurality of MACs. Therefore, each MAC should perform a different set(s) of partial product terms. It is noted that Giacalone et al do NOT disclose specifically detail the claimed "specified unique partial product terms" feature. It is noted that applicants' specification discloses, e.g., see paragraph [24] "[e]ach of these partial products ... can therefore be computed once and reused ..."; however, the "specified unique partial product terms" feature may be "odd / even", "most /least significant", ... partial product terms. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Giacalone et al's teachings because the device could perform filter function with plurality of MACs as claimed. It is also noted that the preamble

(claims 1 and 3; "without the need for delay lines") is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

6. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata.

Iwata discloses, e.g., see Fig. 5, the invention substantially as claimed, including: a plurality of processing units. Therefore, each processing unit should perform a different set(s) of partial product terms. It is noted that Iwata does NOT disclose specifically detail the claimed "specified unique partial product terms" feature. It is noted that applicants' specification discloses, e.g., see paragraph [24] "[e]ach of these partial products ... can therefore be computed once and reused ..."; however, the "specified unique partial product terms" feature may be "odd / even", "most /least significant", ... partial product terms. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Iwata's teachings because the device could perform filter function with plurality of processing units as claimed. It is also noted that the preamble (claims 1 and 3; "without the need for delay lines") is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a

Art Unit: 2193

structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An, can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



Tan V. Mai  
Primary Examiner